

Figure 1

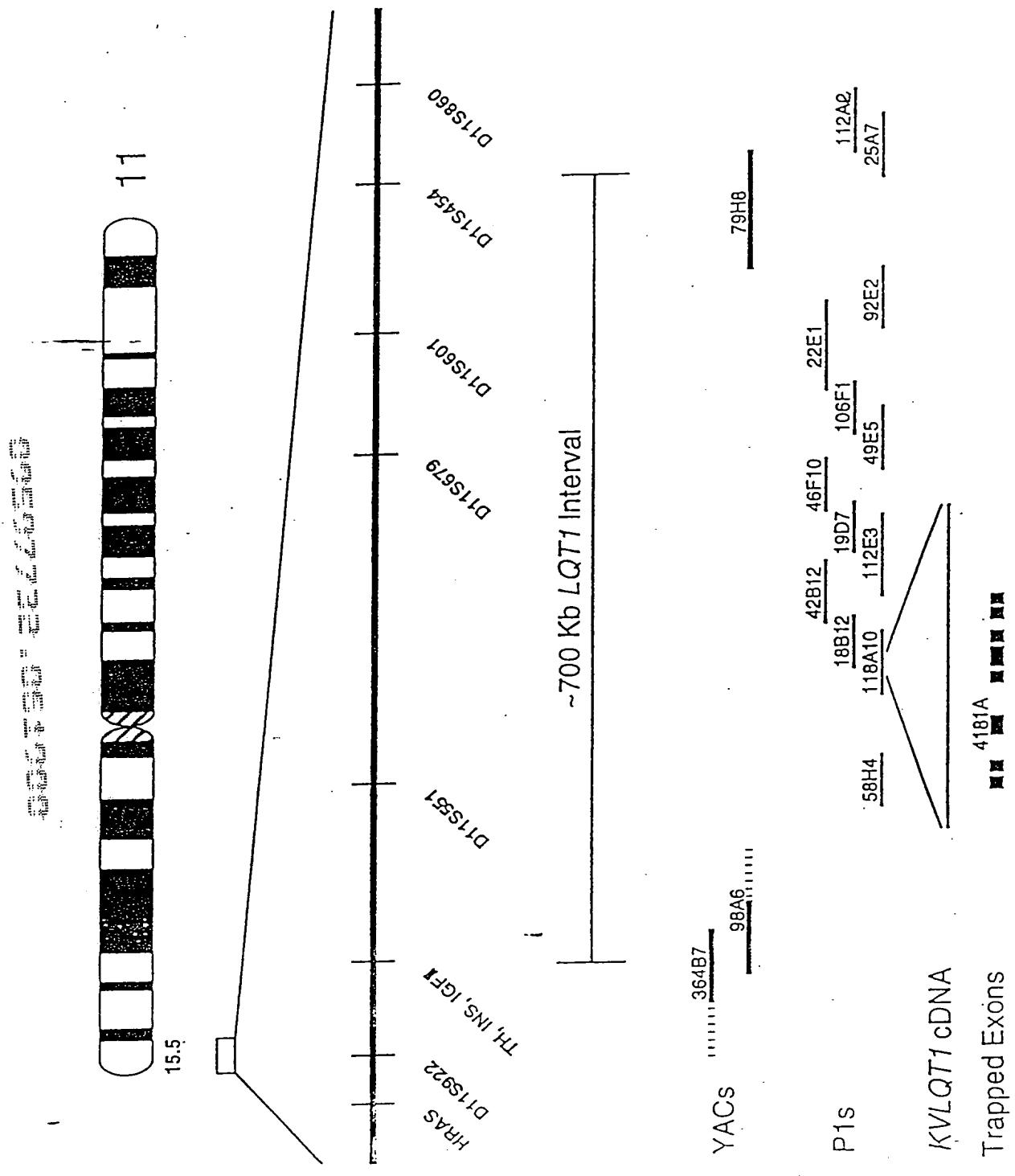


Figure 2

Figure 3

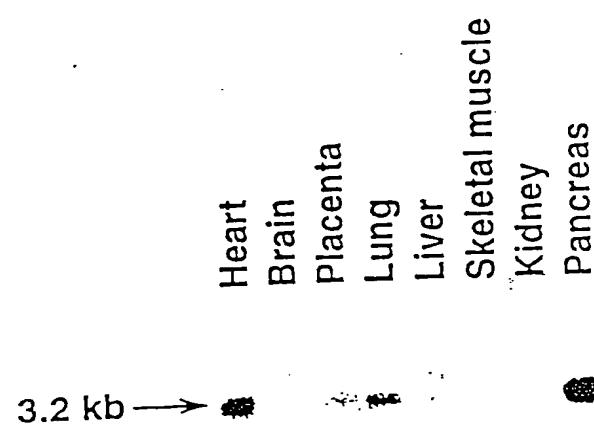


Figure 4

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 M A A A S S P P R A E R K R W G W G R L P G A R R G S -27
 GCGGCCCTGGCCAAGAACGTCGGCTGGAGCTGGCCGGGGCCGGCGGGCGCTACCGCCTCGATCGCCTCC-324
 A G L A K K C P F S L E L A E E G G P A G G A L Y A P I -54
 GCGCCCGGCCAGGTCCCAGGGCCCTCGCTCCCGCCGGCCGGCCGGCCAGTTGCCTCCGACCTTGCCCG-405
 A P G A P G P A P P A S P A A P P V A S D L G P -81
 CGGCCGCCGGTGAGCCTAGACCCGCGCTCTCACAGCACGCGCCGGTGTGGCGCGACCCACGTCCAGGGC-486
 R P P V S L D P R V S I Y S T R R P V L A R T H V Q G -108
 ▼
 CGCGTCTACAACCTCCTCGAGCGTCCCACCGGCTGGAAATGCTTCGTTACCACTCGCCGCTTCCTCATCGTCTGGTC-567
 R V Y N F L E R P T G W K C F V Y H F A V F L I V L V -135
 ▼ S1
 TGCCTCATCTTCAGCGTGTGTCACCATCGAGCAGTATGCCGCCCTGGCCACGGGACTCTCTCTGGATGGAGATCGTG-648
 C L I F S V L S T I E Q Y A A L A T G T L F W M E I V -162
 S2
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 L V V F E G T E Y V V R L W S A G C R S K Y V G L W G -189
 ▼
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 R L R F A R K P I S I I D L I V V V A S M V V L C V G -216
 S3
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 S5
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 S Y A D A L W W G V V T V T I G Y G D K V P Q T W V -324
 Pore
 ▼
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 ▼
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 G Y D S S V R K S P T L L E V S M P H F M R T N S F A -486
 ▼
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 E D L D L E G E T L L T P I T H I S Q L R E H H R A T -513
 ▼
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 V I E Q Y S Q G H L N L M V R I K E L Q R R L D Q S I -567

Figure 5A

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GGGAAGCCCTCACTGTTCATCTCCGTCTCAGAAAAGAGCAAGGCATCGGGCAGCAACACGATCGGCCGCCCCGCTGAACCGA-1944
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    ▼
GTAGAACAGACAAGGTGACCGCAGCTGGACCAGAGGCTGGCACTCATACCGACATGCTTCACCAGCTGCTCTCCCTGACCGT-2025
V E D K V T Q L D Q R L A L I T D M L H Q L L S L H G -621
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D P E L F L P S N T L P T Y E Q L T V P R R G P D E G -675
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S * -676
GAGGCCACCTCTAAAGGCCAGAGAGAACAGGCCACTCTCAGAGGCCCAATAACCCATGGACCATGCTGCTGGCAC-2349
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Figure 5B

chromosome 11

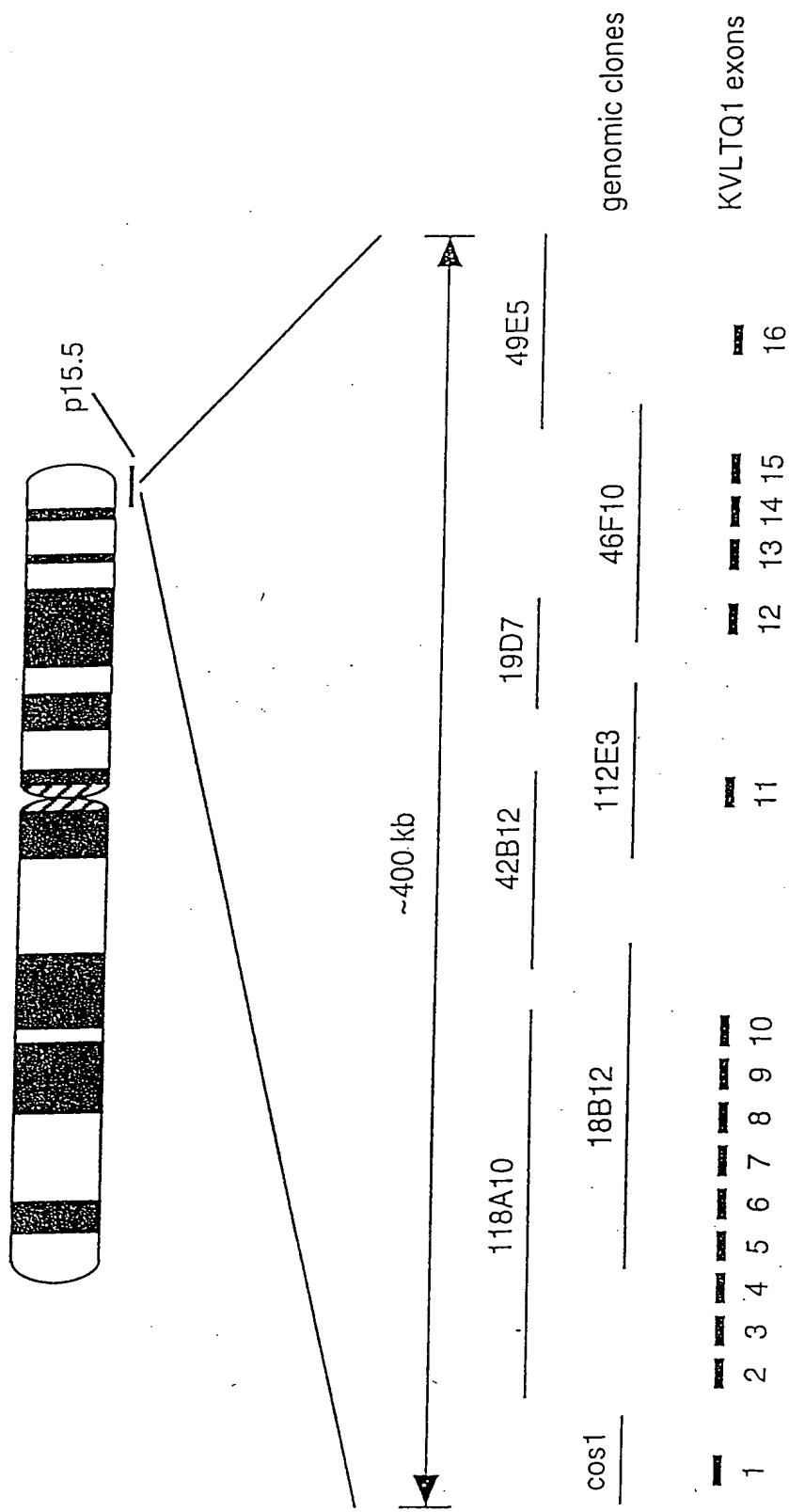


Figure 6

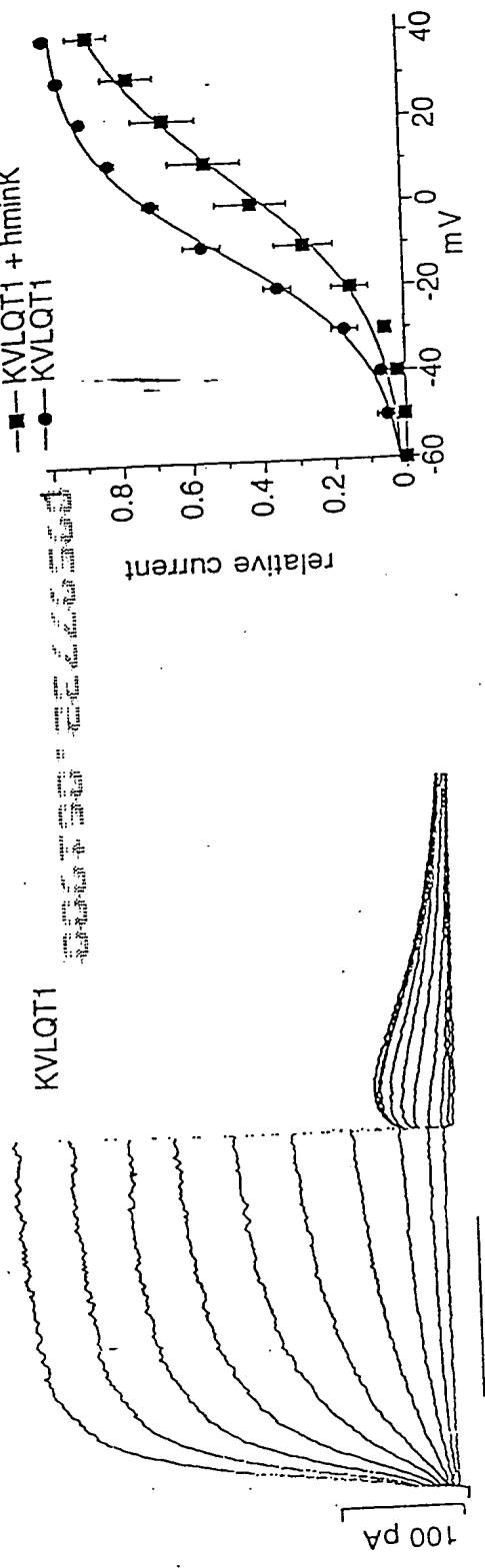


Figure 7A

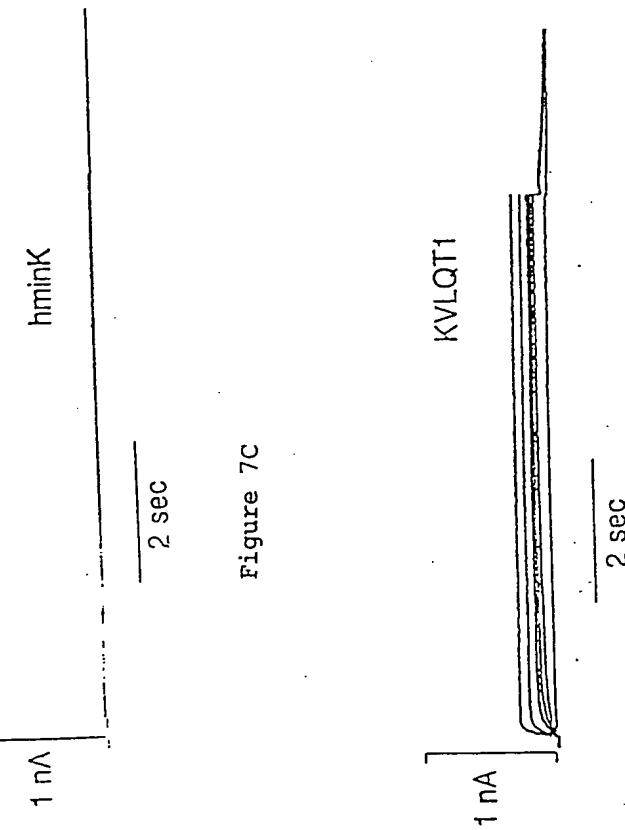


Figure 7B



Figure 7C

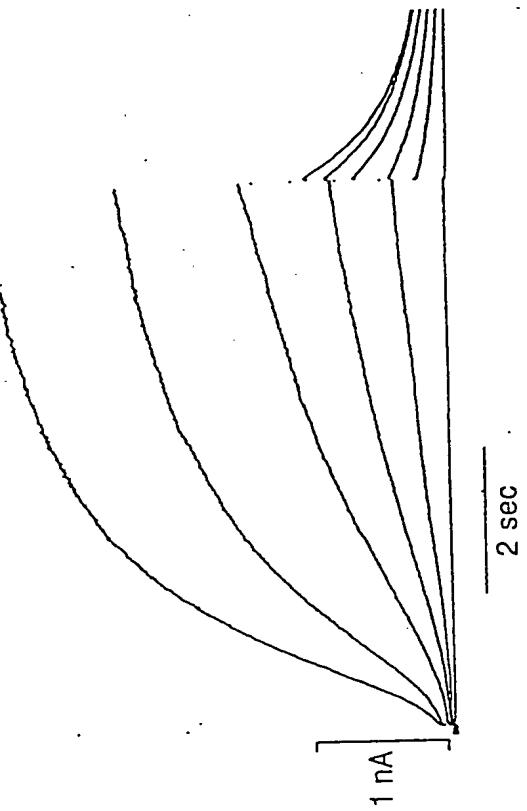


Figure 7D

Figure 7E

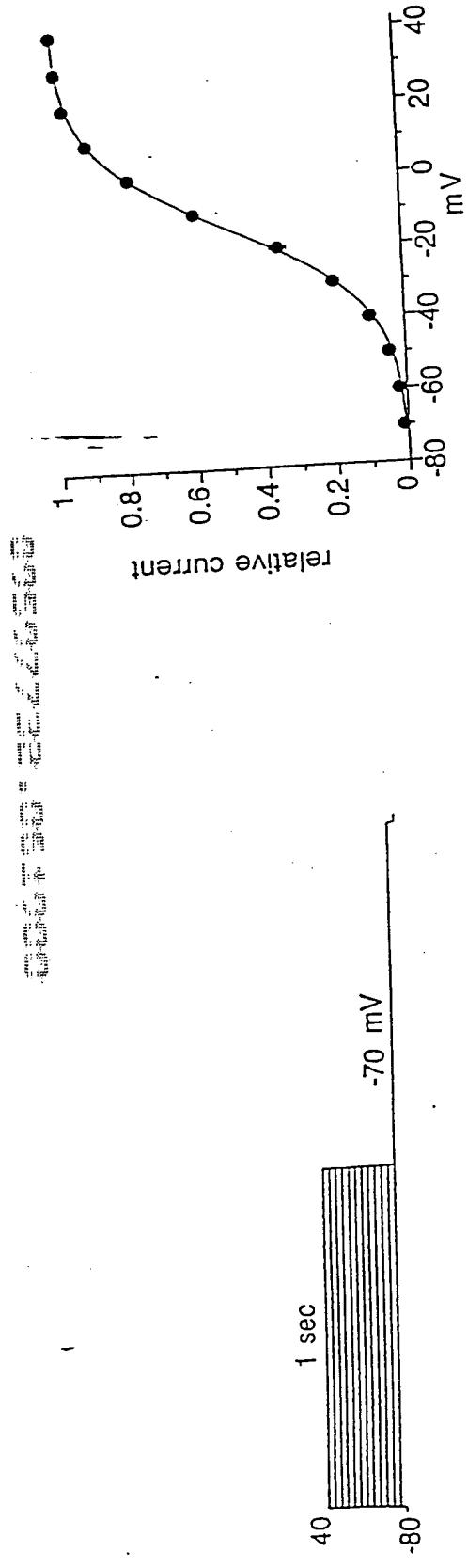


Figure 8A

Figure 8B

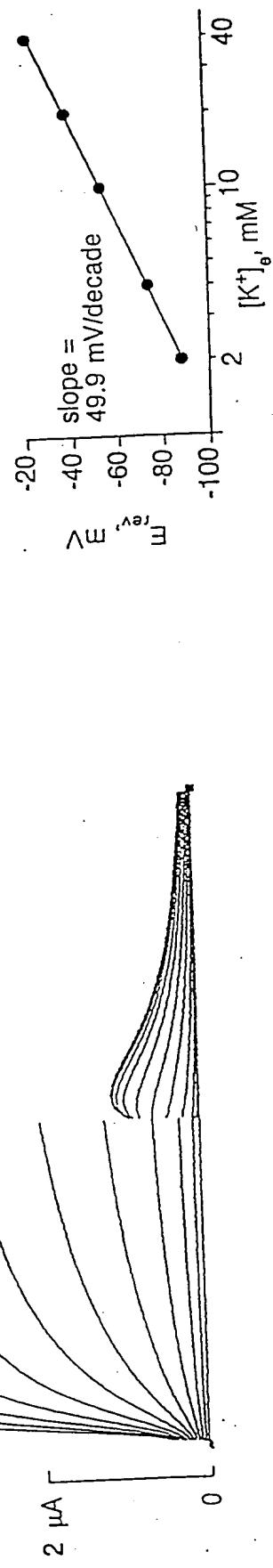


Figure 8C

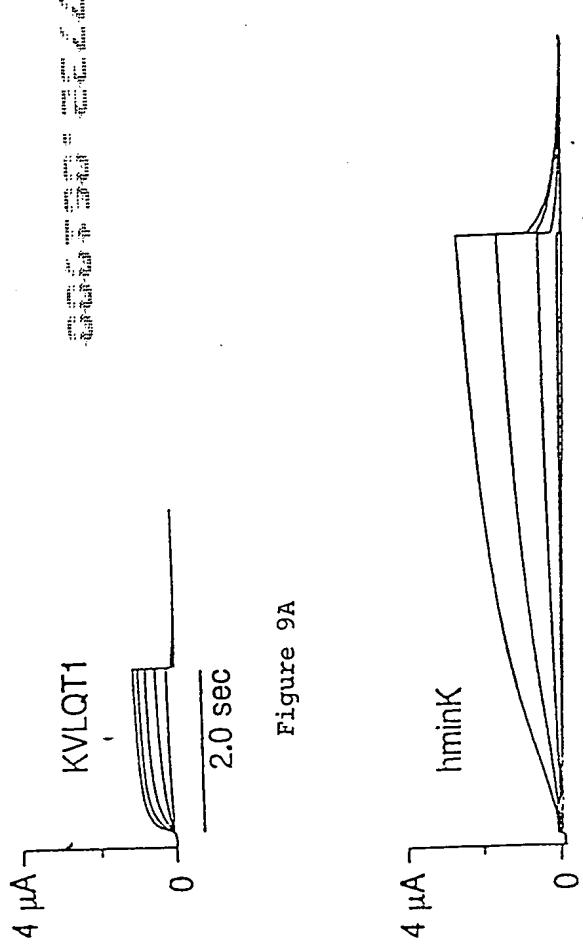


Figure 9A

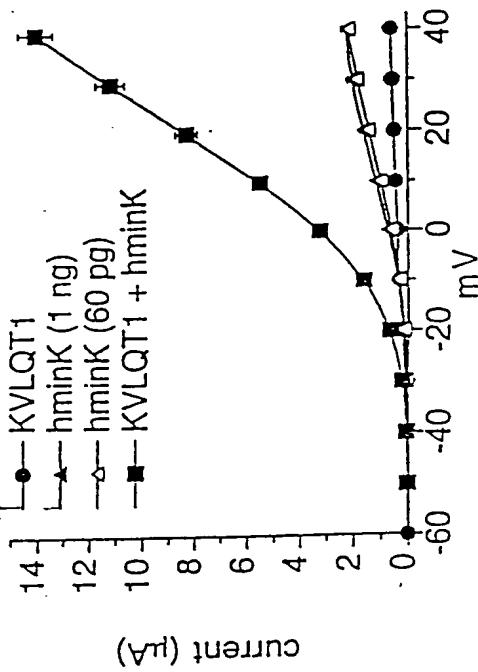


Figure 9B

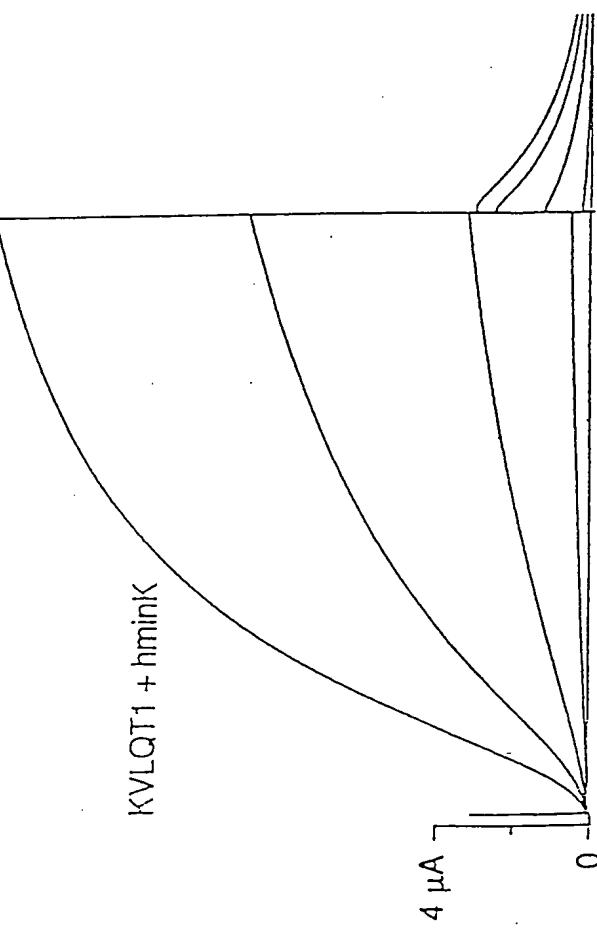


Figure 9C

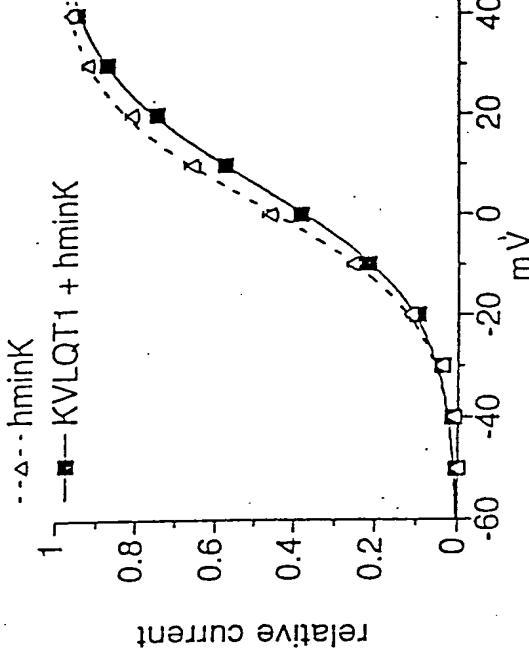


Figure 9D

Figure 9E

Xenopus	MNENAINSLYEAIPLPQDGSSNGQRQEDRQANSFELKRETIVATDPPRPT
Human	QGRVYNFLERPTGWCFCVYHFAVFLIVL
Xenopus	INLDPRVSIYSGRRPLFSRTNIQGRVYNFLERPTGWCFCVYHFTVFLIVL
Human	S1 _____ S2 _____ VCLIFSVLSTIQQYAAALATGTLFWMEIVLVVFFGTYYVVRILSAGCRSKY
Xenopus	ICLIFSVLSTIQQYNNLATETLFWMEIVLVVFFGAEYVVRILSAGCRSKY
Human	S3 _____ S4 _____ VGLWGRLLRFARKPISIDLTIVVAVSMVVLCVGSKGQVFATSAIRGIRFLQ
Xenopus	VGVWGRLLRFARKPISVIDLTIVVAVSIVLCVGSNGQVFATSAIRGIRFLQ
Human	S5 _____ Pore _____ ILRMLHVDRQGGTWRLLGSVVFIRHQELITLTYIGFLGLIFSSYFVYLAE
Xenopus	ILRMLHVDRQGGTWRLLGSVVFIRHQELITLTYIGFLGLIFSSYFVYLAE
Human	KDAVNESGRVERGSYADALWWGVVTITIGYGDVKPQTWVGKTIASCFSV
Xenopus	KDAJDSSGEYQFGSYADALWWGVVTITIGYGDVKPQTWIGKTIASCFSV
Human	S6 _____ FAISFFALPAGILGSGFALKVQQKOROKHFNRQIPAAASLIQTAWRCYAA
Xenopus	FAISFFALPAGILGSGFALKVQQKOROKHFNRQIPAAASLIQTAWRCYAA
Human	ENPDSSIWKIYIRKAPRSHTLLSPSPKPKKSVVVKKKFKLKDNGVTPG
Xenopus	ENPDSAIWKIYIRKQSRNHIMSPSP
Human	EKMLTVPHITCDPPEERRLDHFSVDGYDSVRKSPILLEVSMPHFMRTNS
Human	FAEDLDLEGETLLTPITHISQLREHHRATIKVIRRMQYFVAKKKFQQARK
Human	PYDVRDVIEQYSQGHLNLMRVIKELQRRLDQSIGKPSLFISVSEKSKDRC
Human	SNTIGARLNRVVEDKVTQLDQRLALITDMLHQLLSLHGGSTPGSGGPREG
Human	GAHITQPCGSGGSVDPELFLPSNTLPTYEQLTVPRRGPDDEGS

Figure 10

K1532

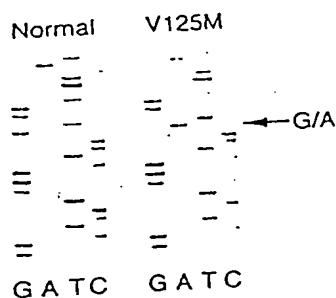
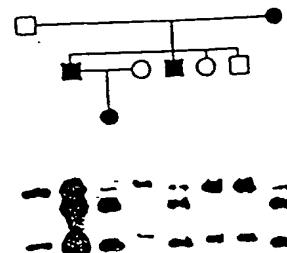


Figure 11A

K2605

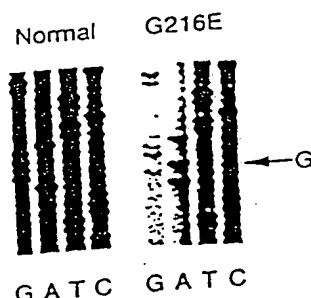
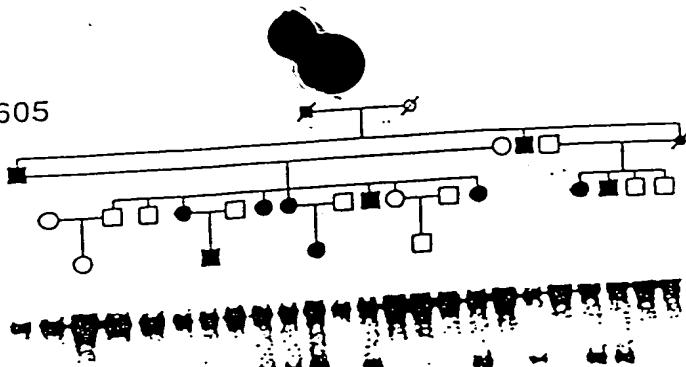


Figure 11B

K1723

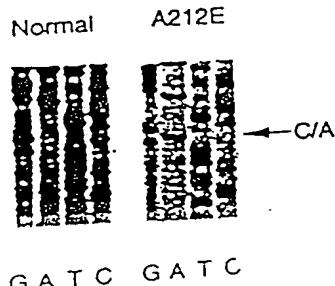
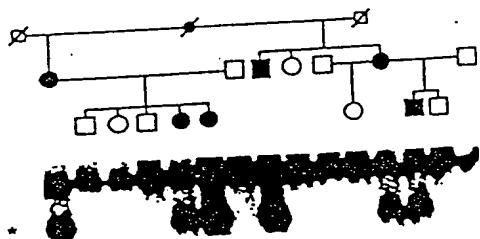


Figure 11C

K1807

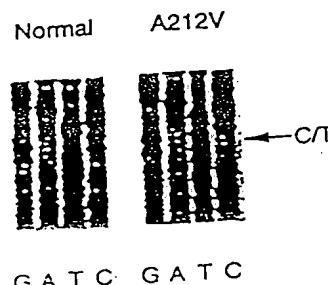
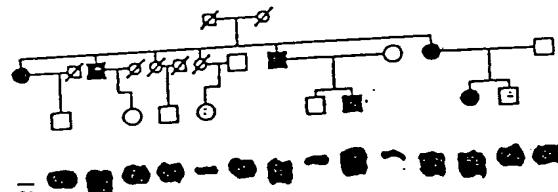
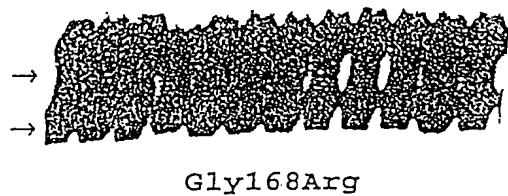
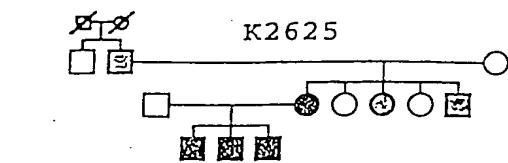
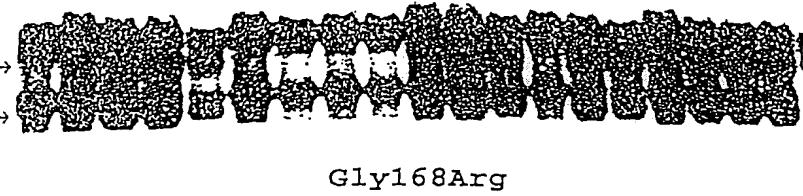
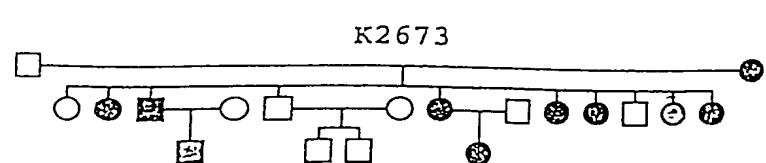


Figure 11D



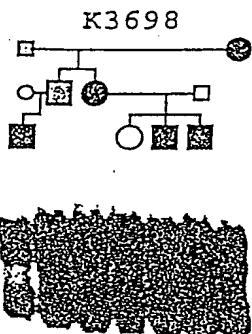
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Figure 12H

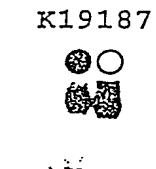


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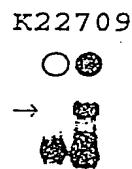
Figure 12I



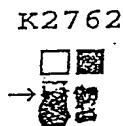
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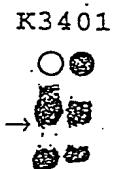
Gly314Ser



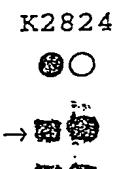
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Lys318Asn



Leu353Pro



Arg366Trp

Figure 12J

Figure 12K

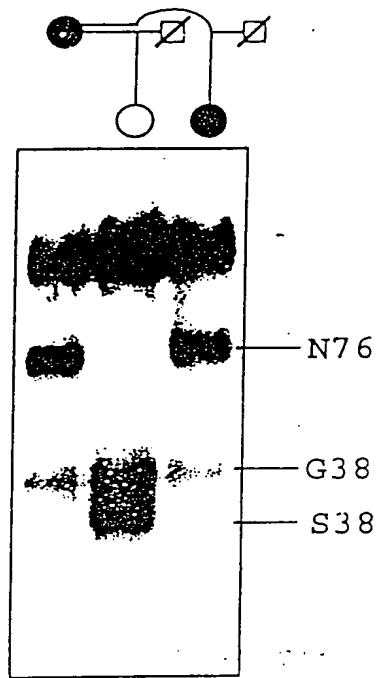
Figure 12L

Figure 12M

Figure 12N

Figure 12O

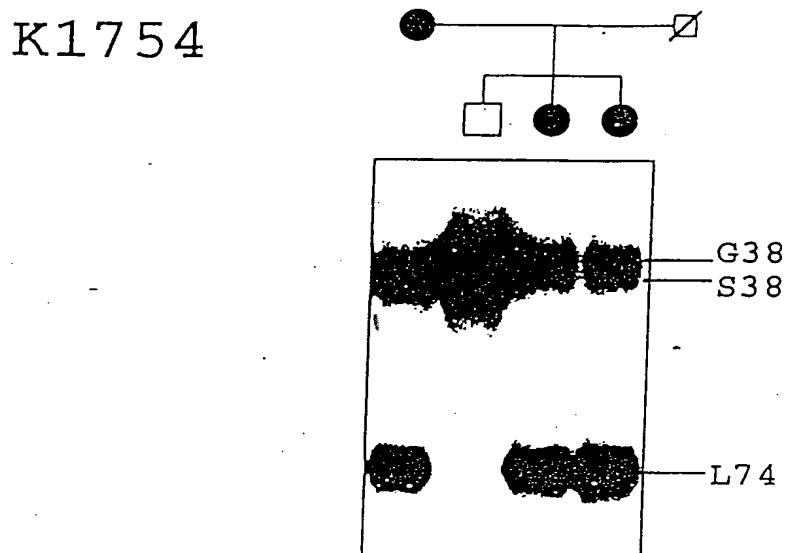
K1789



Normal	CAC	TCG	AAC	GAC	CCA	TTC	AAC
	H	S	N	D	P	F	N
↓							
Mutant	CAC	TCG	AAC	AAC	CCA	TTC	AAC
	H	S	N	N	P	F	N

Figure 13A

K1754



Normal	CTG	GAG	CAC	TCG	AAC	GAC	CCA
	L	E	H	S	N	D	P
↓							
Mutant	CTG	GAG	CAC	TTG	AAC	GAC	CCA
	L	E	H	L	N	D	P

Figure 13B

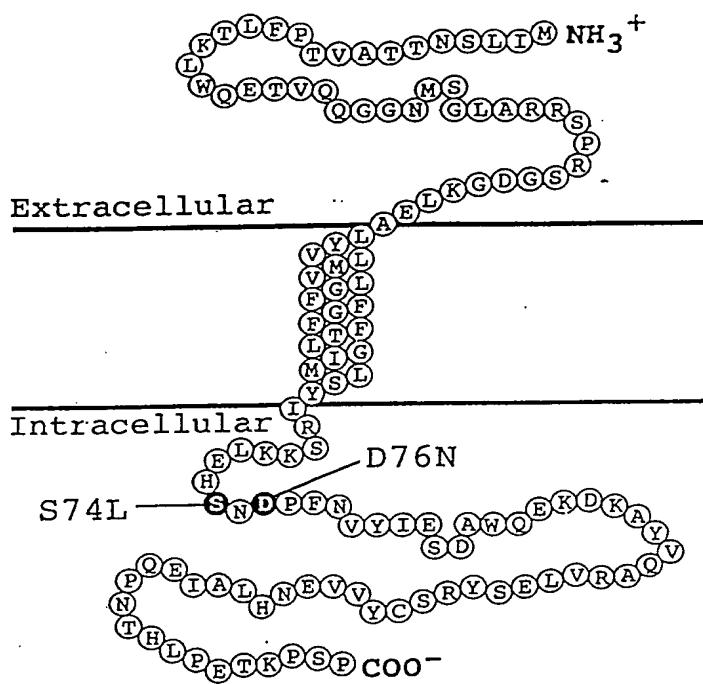


Figure 13C

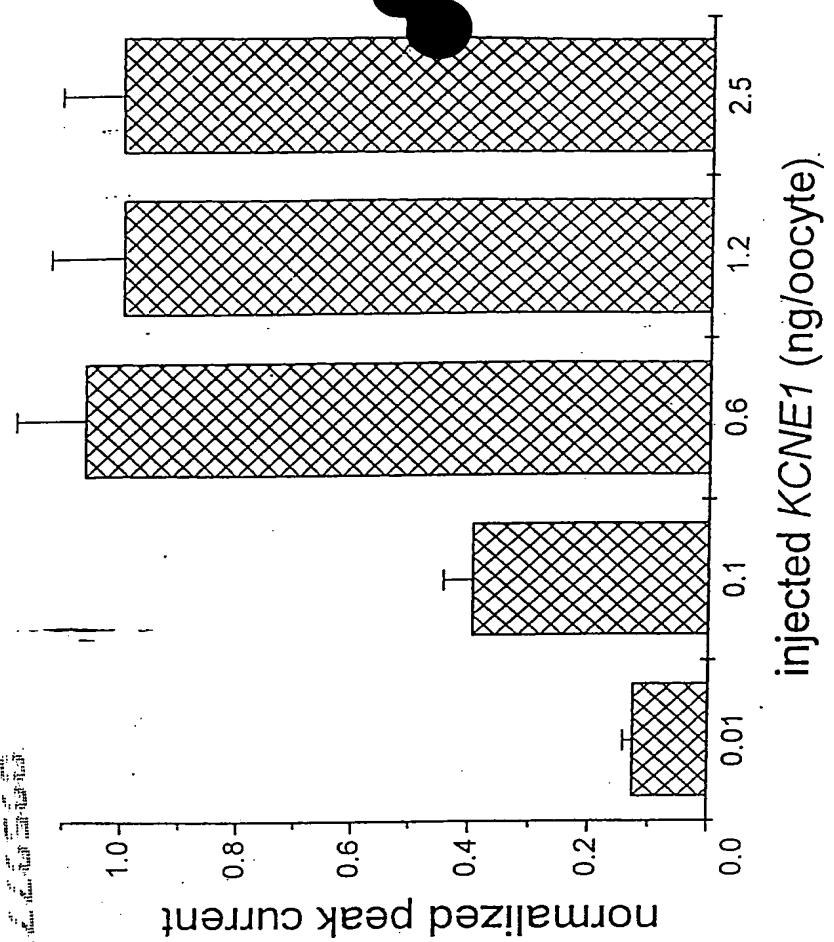


Figure 14B

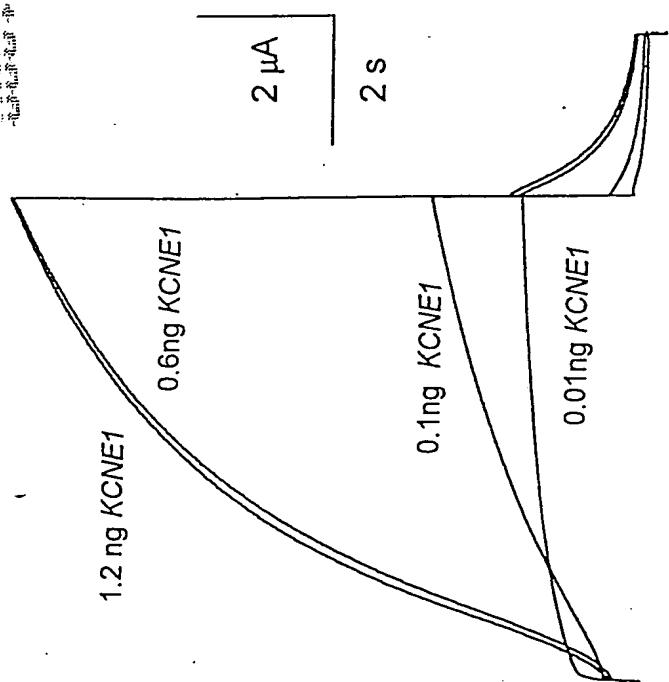


Figure 14A

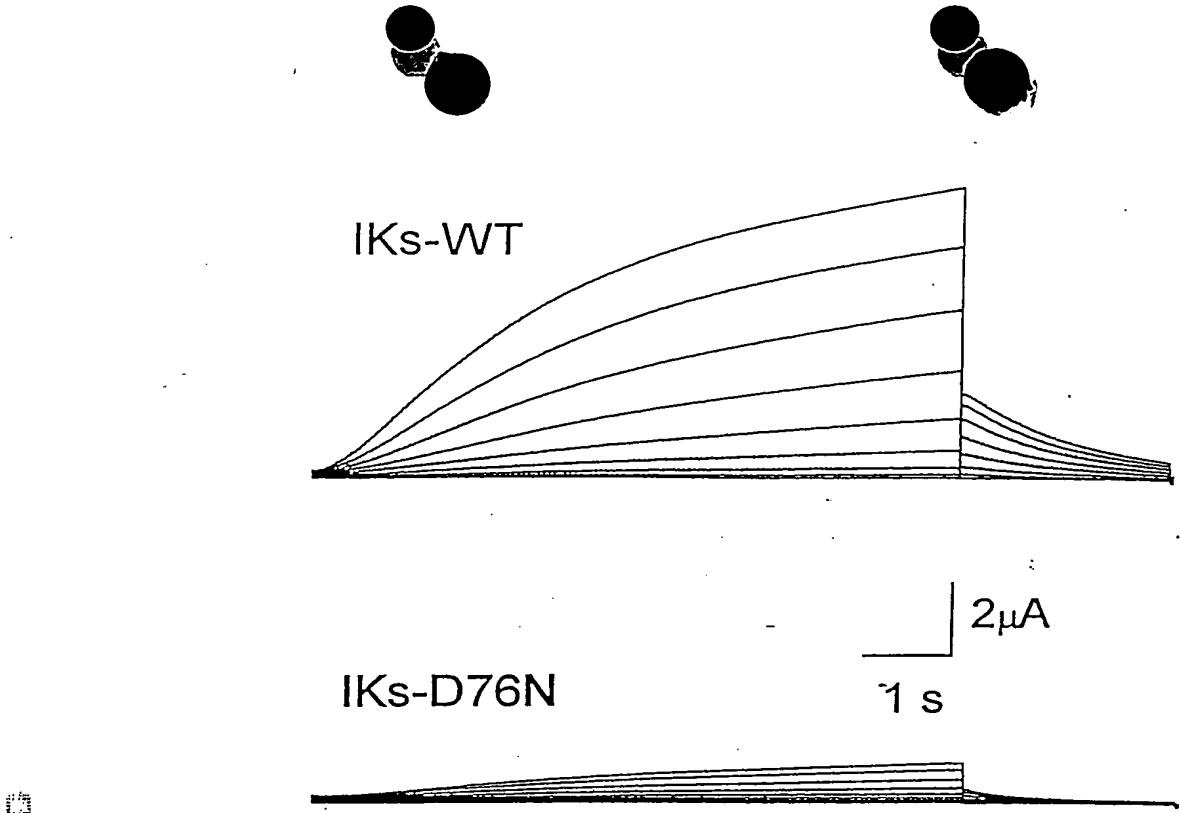


Figure 15A

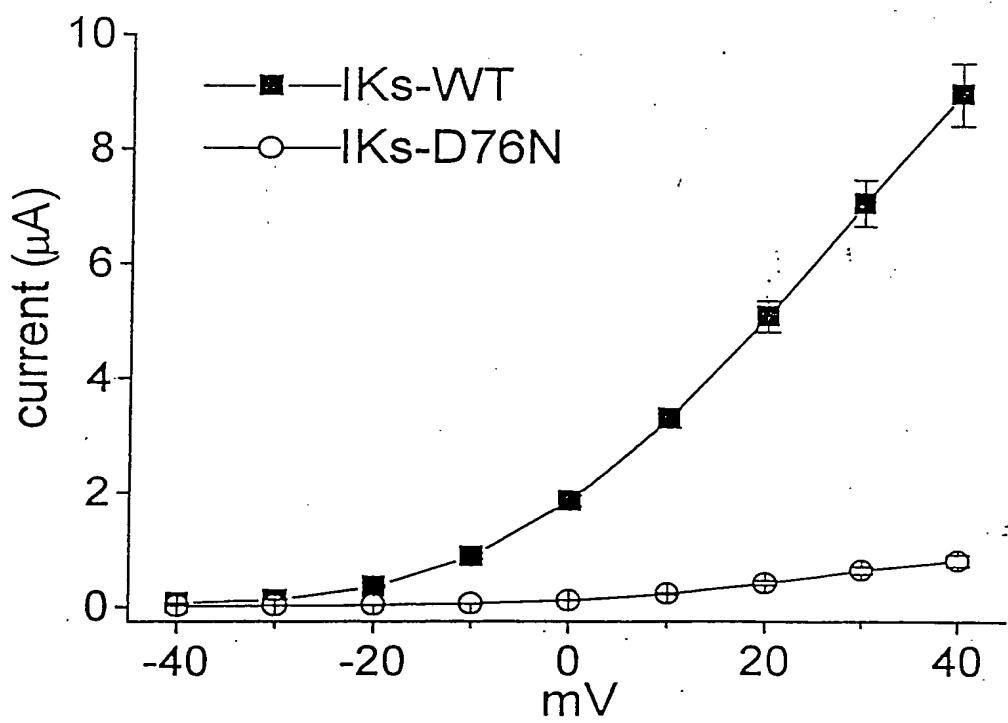


Figure 15B

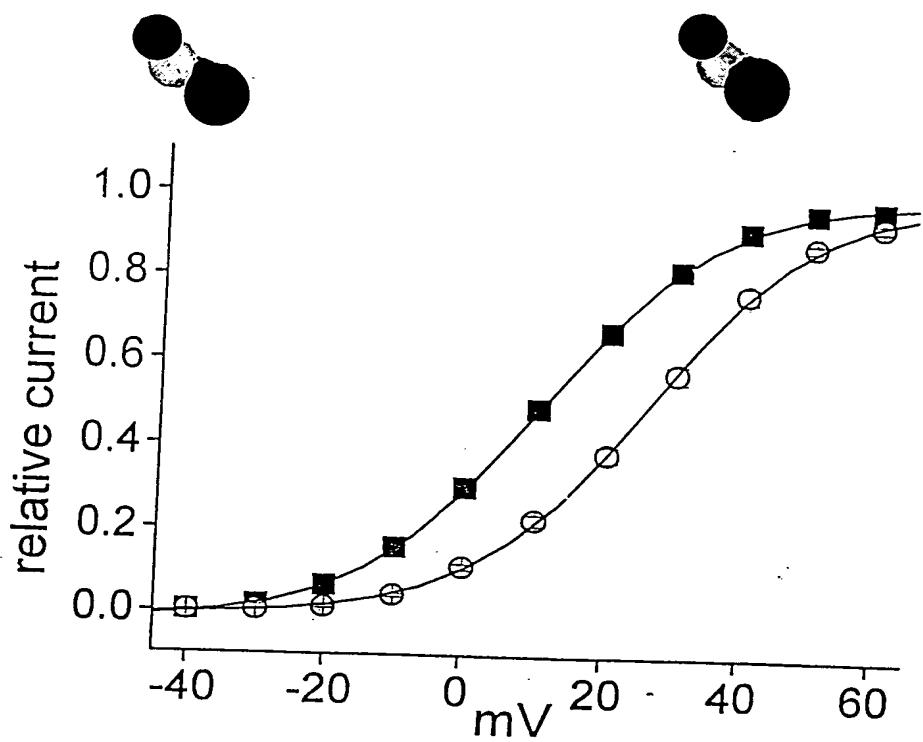


Figure 15C

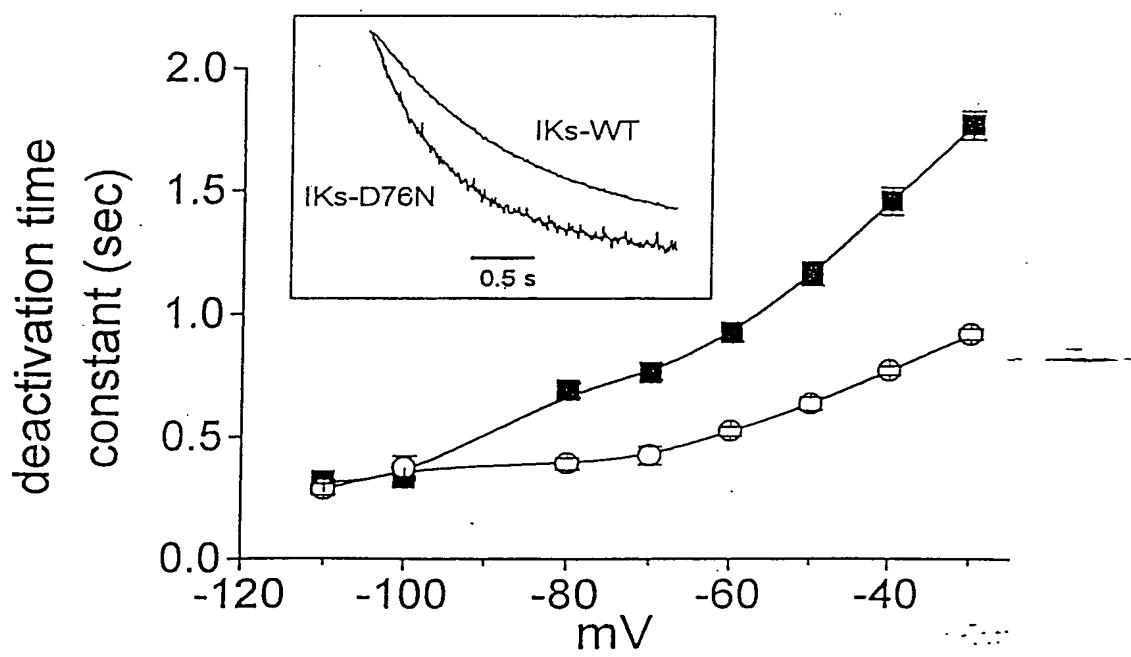


Figure 15D

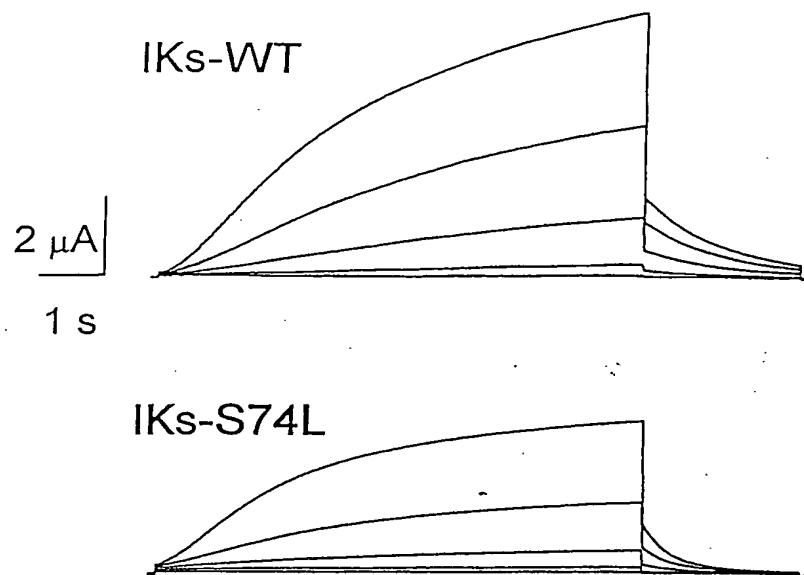


Figure 16A

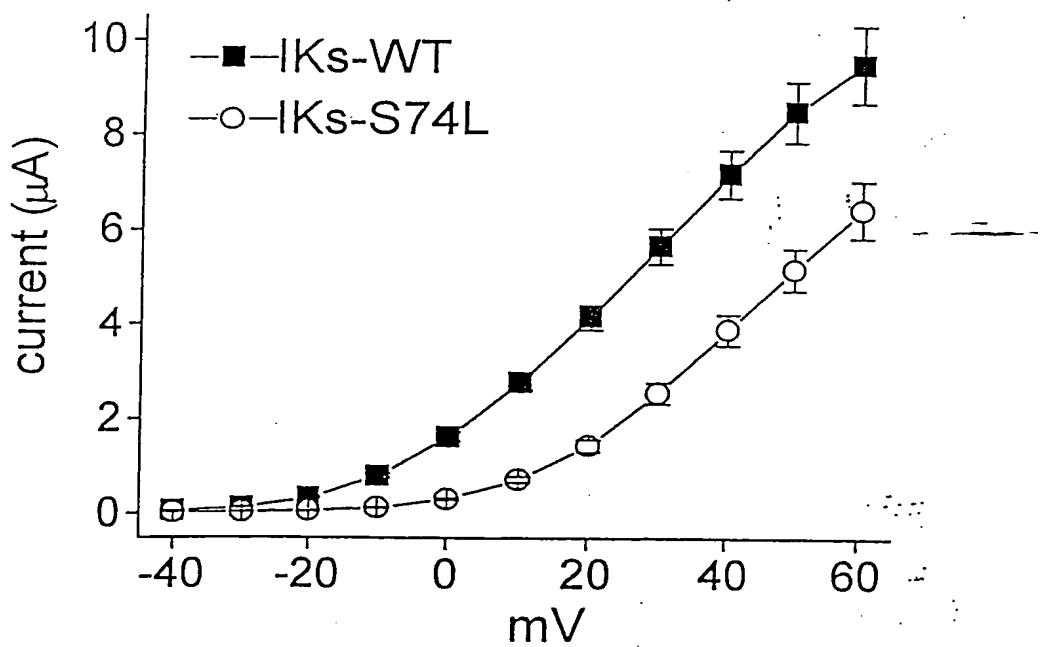


Figure 16B

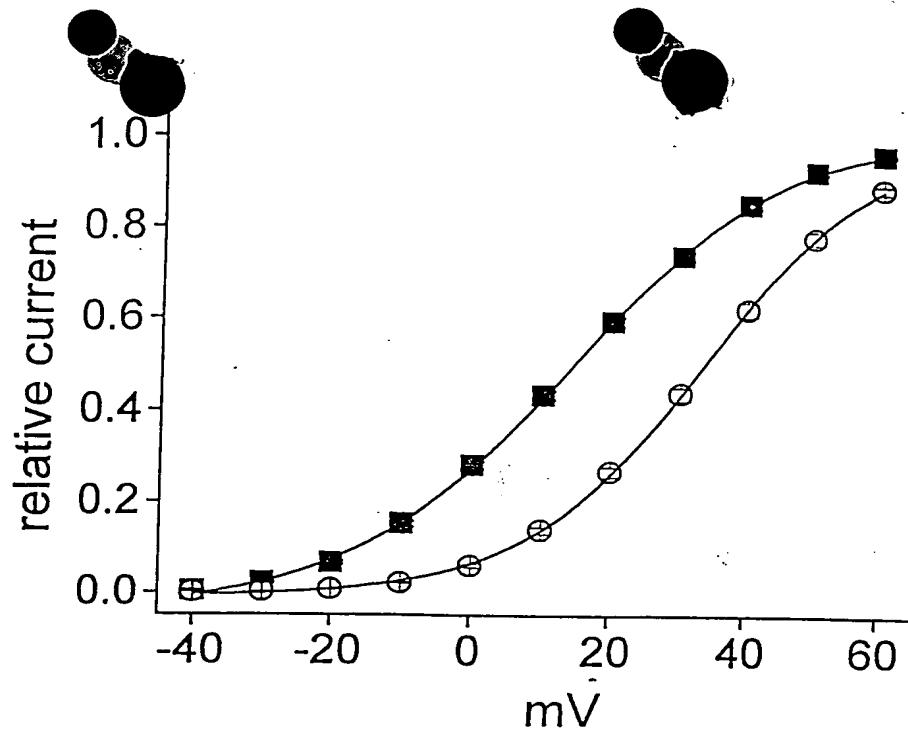


Figure 16C

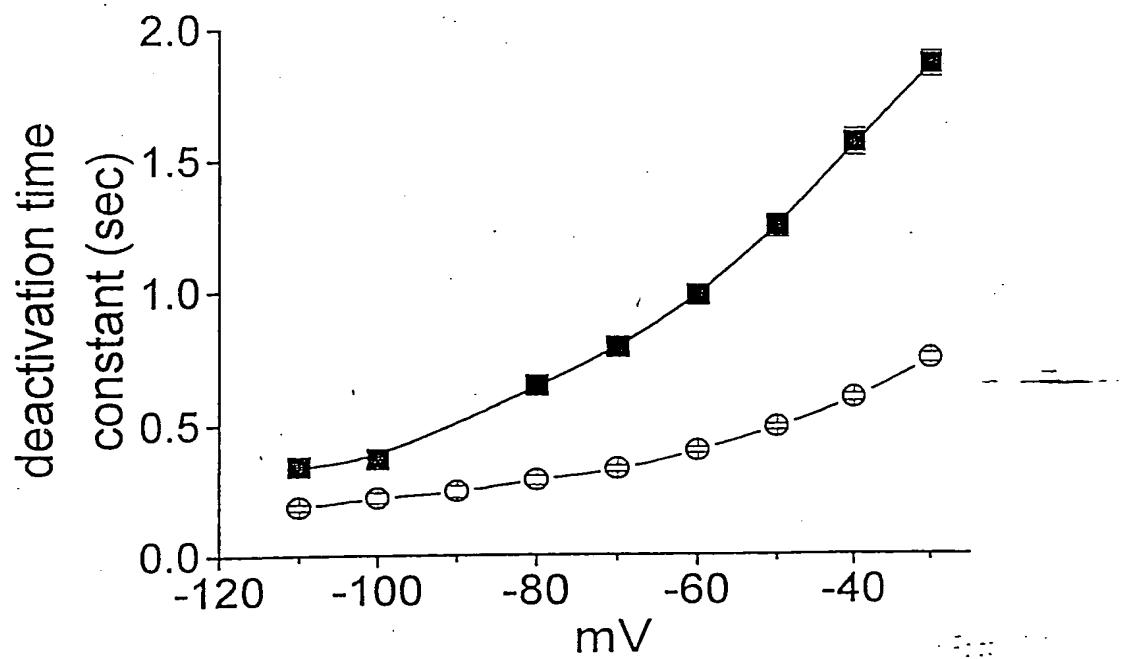


Figure 16D

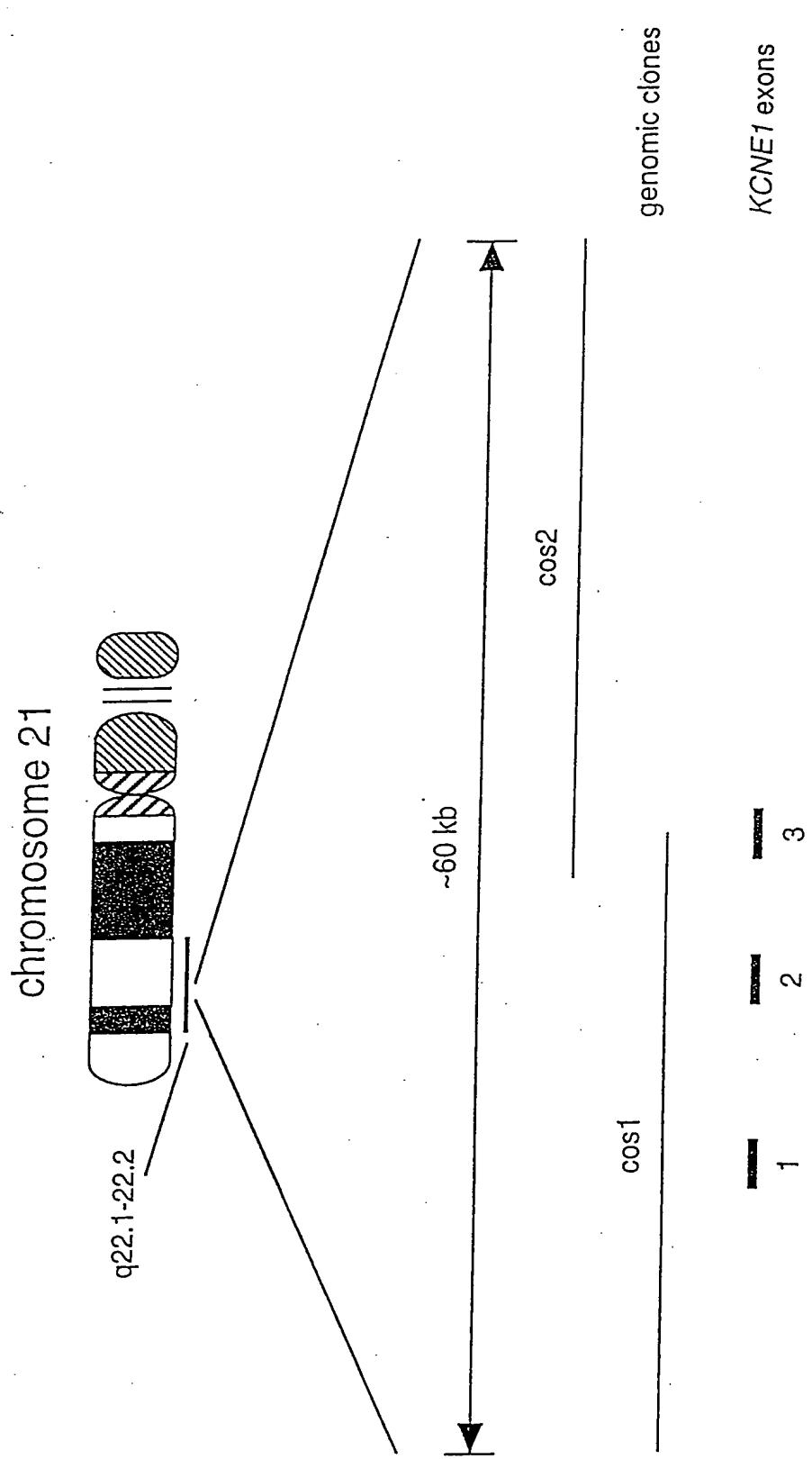


Figure 17

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 AGCTGCAGCAGTGGAACCTTAATGCCAGGATGATCTGCTAACACCACAGCGGTGACGCCCTTGACCAAGCTGTGG-243
 M I L S N T T A V T P F L T K L W -17
 CAGGAGACAGTCAGCAGGGTGGCAACATGTCGGGCTGGCCGCAGGTCCCCCGCAGCGGTGACGCCAGCTGGAGGCC-324
 Q E T V Q Q G G N M S G L A R R S P R S G D G K L E A -44
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 G(A)n -1702

Figure 18